Claims:

1. Dealuminised catalyst support, based on substantially aluminium-containing phyllosilicates of montmorillonite structure, with an aluminium content of less than 0.3 wt.%.

2. Catalyst support according to claim 1, which may be obtained by impregnation with phosphoric acid, subsequent hydrothermal treatment at a temperature of from 160 to 300 °C and a partial pressure of water vapour of from 4 to 80 bar_{abs}, subsequent washing with acidic, basic or neutral solution at a temperature of from 20 to 100 °C and subsequent rewashing with water until the washing water is neutral.

3. Catalyst support according to at least one of claims 1 or 2, having an aluminium content of less than 0.03 wt.%.

4. Process for reducing the aluminium content of a catalyst support comprising substantially aluminium-containing phyllosilicates of montmorillonite structure, characterised in that the catalyst support is
   - impregnated with acid,
   - treated hydrothermally at a temperature of from 160 to 300 °C and a partial pressure of water vapour of from 4 to 80 bar_{abs},
   - then washed with acidic, basic or neutral solution at a temperature of from 20 to 100 °C and
   - then rewashed with water until the washing water is neutral.

5. Process according to claim 4,
   characterised in that
   the catalyst support is treated hydrothermally at a temperature of from 220 to 260 °C and a partial pressure of water vapour of from 16 to 25 bar_{abs}.

6. Process according to claim 4,
characterised in that
the catalyst support is treated hydrothermally through use as a catalyst in a hydration reaction.

7. Process according to claim 6,
characterised in that
the catalyst support is cleaned by burning off adherent organic carbon-containing compounds at 300 to 1000 °C.

8. Process according to at least one of claims 4 to 7,
characterised in that
the catalyst support is washed with water.

9. Process according to at least one of claims 4 to 8,
characterised in that
the catalyst support is washed with hydrochloric acid.

10. Process according to at least one of claims 4 to 9,
characterised in that
the catalyst support is washed with water containing from 0 to 30 parts concentrated hydrochloric acid.

11. Process according to at least one of claims 4 to 10,
characterised in that
washing is performed at a temperature of from 70 to 90 °C.

12. Process according to at least one of claims 4 to 11,
characterised in that

the catalyst support takes the form of a spherical body.

13. Process according to claim 12,
characterised in that
the catalyst support takes the form of a ball.

14. Process according to at least one of claims 12 or 13,
characterised in that
the catalyst support has a diameter of from 1 to 10 mm.

15. Process according to claim 14,
characterised in that
the catalyst support has a diameter of from 4 to 6 mm.

16. Process according to at least one of claims 4 to 15,
characterised in that
the catalyst support comprises a total pore volume of from 0.2 to 0.9 ml/g.

17. Process according to claim 16,
characterised in that
the catalyst support comprises a total pore volume of from 0.6 to 0.7 ml/g.

18. Process according to at least one of claims 4 to 17,
characterised in that
the catalyst support exhibits a compressive strength of at least 10 N/mm.

19. Process according to claim 18,
characterised in that
the catalyst support exhibits a compressive strength of at least 20 N/mm.

20. Process according to at least one of claims 4 to 19, characterised in that the catalyst support is made on the basis of montmorillonite.

21. Process according to at least one of claims 4 to 20, characterised in that the aluminium content in the catalyst support is less than 0.3 wt.% after treatment.

22. Process according to claim 21, characterised in that the aluminium content in the catalyst support is less than 0.03 wt.% after treatment.

23. Process according to at least one of claims 4 to 22, characterised in that the catalyst support is impregnated with a mineral acid.

24. Process according to at least one of claims 4 to 22, characterised in that the catalyst support is impregnated with phosphoric acid.

25. Process for hydrating C_2 or C_3 olefins with water in the presence of a catalyst comprising an acid-impregnated catalyst support according to one of claims 1 to 24.

26. Process according to claim 25, characterised in that

- the hydration reaction is performed in a reactor,
- the molar ratio of olefin to water in the reactor is from 0.1 to 0.8,
- the gas hourly space velocity is from 10 to 100 $l_n/min/l_{Cat}$,

- the catalyst contains from 5 to 60 wt.% acid and
- the hydration reaction of the olefins proceeds at a temperature of from 170 to 300 °C and at a pressure of from 20 to 200 bar_{abs}.

27. Process according to at least one of claims 25 and 26, characterised in that the acid with which the catalyst support is impregnated is a 10 to 90 wt.% phosphoric acid.

28. Process according to claim 27, characterised in that the acid with which the catalyst support is impregnated is a 50 to 60 wt.% phosphoric acid.

29. Process according to at least one of claims 25 to 28, characterised in that the catalyst contains from 30 to 40 wt.% phosphoric acid.

30. Process according to at least one of claims 25 to 29, characterised in that the hydration reaction for producing ethanol from ethene is performed at temperatures of from 220 to 260 °C and at a pressure of from 60 to 80 bar.

31. Process according to at least one of claims 25 to 30, characterised in that the olefin used and the water used are introduced into the reactor in gaseous form.

32. Process according to at least one of claims 25 to 31, characterised in that

acid is introduced into the reactor during the hydration reaction.

33. Process according to claim 32,
characterised in that
phosphoric acid is used as the acid.

34. Process according to at least one of claims 32 or 33.
characterised in that
the acid is injected continuously into the reactor.